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- Imbert, C.**
Calcul et mesure des forces et couples appliqués à un cristal uniaxe traversé par l'onde extraordinaire. G. Roosen et C. Imbert, 1903.
- Irfan, M.**
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Disorientation of $\text{Na}(3^2\text{P}_{1/2})$ atoms, induced in collisions with noble gases. B. Niewitecka, T. Skaliński, and L. Krause, 1956.

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- Langlois, H.
Wavelength modulated reflectivity and photoconductivity of GaSb in a magnetic field. H. Langlois, A. Filion, and E. Fortin, 1933.
- Larsen, S. Y.
The quantum mechanical second virial coefficient for anisotropic interactions: hydrogen molecule-helium atom. S. Y. Larsen and J. D. Poll, 1914.
- Leblanc, R. P.
Thermionic emission from a niobium single crystal. R. P. Leblanc, B. C. Vanbrugge, and F. E. Girouard, 1589.
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- Lenis, S.
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Mean life measurements for some energy levels of O I-O VI. E. H. Pinnington, D. J. G. Irwin, A. E. Livingston, and J. A. Kernahan, 1961.

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- Nagl, A.**
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- Nayak, R. M.**
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- Niewitecka, B.**
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- Nir, D.**
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- Mean life measurements for some energy levels of O I-O VI. E. H. Pinnington, D. J. G. Irwin, A. E. Livingston, and J. A. Kernahan, 1961.
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- Rai, S. B.**
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- Roosen, G.**
Calcul et mesure des forces et couples appliqués à un cristal uniaxe traversé par l'onde extraordinaire. G. Roosen et C. Imbert, 1903.
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- Some aspects of transverse momentum distributions of particles produced in high energy nucleon-nucleus interactions. I. Ahmad, M. Zafar, M. Irfan, and M. Shafi, 1261.

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- Quantum theory of spectral modulation. A. Zardecki and C. Delisle, 1694.

- Superradiant intensity fluctuations in neoclassical radiation theory. A. Zardecki, 2469.

Zuckermann, M. J.

- Crystal field effects in Zn-Mn and Zn-Cr alloys. R. Harris, F. T. Hedgcock, J. O. Ström-Olsen, and M. J. Zuckermann, 1765.

- The magnetic properties of disordered transition metal alloys using the coherent potential approximation and related methods. M. J. Zuckermann, 2177.

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